

Claims

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3 1. A system for facilitating trading two items from the
4 group of items comprising commodities and financial
5 instruments, said system comprising:

6 at least two agents that want to trade the items;

7 a trading channel between the two agents allowing

8 for the execution of trades;

9 flow limits on the traded items and on any
10 underlying instruments to be exchanged upon settlement of the
11 traded items; and

12 a central computer coupled to the two agents, said
13 computer adapted to convey to each agent current tradable bid
14 and offered prices and sizes subject to the agent's flow
15 limits.

16 2. The system of claim 1 wherein both agents are coupled
17 to the central computer when they are trading.

18 3. The system of claim 1 wherein at least one agent is a
19 credit-extending agent.

20 4. The system of claim 1 wherein there are at least two
21 credit-extending agents having trading channels with a single
22 non-credit-extending agent.

23 5. The system of claim 1 wherein there are at least two
24 non-credit-extending agents having trading channels with a
25 single credit-extending agent, wherein said credit-extending
26 agent has instructed the central computer that it is
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permissible to have two non-credit-extending agents perform trades via said credit-extending agent.

6. The system of claim 5 wherein the two non-credit-extending agents do not have an available trading channel between them, and the credit-extending agent yields some of its trading channel capacity to the two non-credit-extending agents.

7. The system of claim 1 wherein there are at least two credit-extending agents having trading channels with a single non-credit-extending agent; and

there are at least two non credit-extending agents having trading channels with the same credit-extending agent, which credit-extending agent has instructed the central computer that it is permissible to have two non-credit-extending agents perform trades via said credit-extending agent.

8. The system of claim 1 wherein the central computer updates the current tradable information after each trade.

9. A system for facilitating the trading of items from the group of items comprising commodities and financial instruments, said system comprising:

a plurality of agents that wish to trade the items, wherein each agent is coupled to at least one other agent via a trading channel; and

1 a central computer that conveys to each agent
2 current tradable bid and offered prices and sizes
3 subject to the agent's trading and flow limits;
4 wherein
5 there is at least one non-credit-extending agent
6 having trading channels with at least two credit-
7 extending agents; and
8 there is at least one commonly-coupled credit-
9 extending agent having trading channels with at
10 least two non-credit-extending agents, wherein
11 said commonly-coupled credit-extending agent has
12 instructed the central computer that it is
13 permissible to have at least two non-credit-
14 extending agents perform trades via said commonly-
15 coupled credit-extending agent.
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17 10. The system of claim 1 further comprising a second
18 computer coupled to the central computer, adapted to affix
19 date and time stamps on trade orders posted by the agents.
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21 11. The system of claim 1 wherein at least one agent
22 comprises a computer having a standard application programming
23 interface (API), wherein the API is coupled to the central
24 computer and enables the agent to write customized
25 instructions to facilitate two-way communication between the
26 agent and the central computer.
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12. The system of claim 11 wherein the agent is a credit-extending agent and the API enables the agent to update the agent's backoffice information.

13. The system of claim 11 wherein the API is programmed to make and cancel orders.

14. The system of claim 11 wherein the API receives and reformats the agent's current tradable bid and asked information for any traded items.

15. The system of claim 11 wherein the API sets trading limits.

16. The system of claim 11 wherein the API estimates how much it would cost the agent to liquidate the agent's position in a traded item.

17. The system of claim 11 wherein the API is programmed to estimate the agent's current profit/loss amount for each item being traded.

18. The system of claim 11 wherein the API is programmed to automatically execute trades.

19. A trading system comprising a non-disjointed network of j credit-extending agents and k non-credit-extending agents, where j and k are each positive integers at least equal to two; wherein

the agents are connected via trading channels; and
the agents are adapted to trade items from the group
of items comprising commodities and financial
instruments; said system further comprising:

a central computer coupled to the agents, said computer being adapted to calculate, for each pair of items being traded, topology-dependent individual trading limits for each agent.

20. A non-disjointed network comprising:

j credit-extending agents and k non-credit-extending agents, where j and k are each positive integers at least equal to two;

a plurality of trading channels coupling the agents to each other, wherein the trading channels permit the agents to trade items from the group of items comprising commodities and financial instruments; and

a central computer which, for each pair of items being traded, converts the network into a virtually cliqued network.

21. The system of claim 19 wherein, after each trade, the central computer re-computes the trading limits, thereby changing the topology of the network.

22. The system of claim 21 wherein changing the trading limits for a given pair of items forces a change in the trading limits for at least one other pair of items.

23. The system of claim 19 wherein the central computer presents a standardized application programming interface enabling any agent to connect thereto.

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2 24. The system of claim 19 wherein each agent comprises
3 means for displaying:

4 said agent's current position in each item traded;

5 and

6 said agent's currently available trading limits, for

7 all item pairs, with its immediate neighboring

8 agents.

9 25. The system of claim 19 wherein the central computer
10 prepares, for each agent, a custom limit order book taking
11 into account multi-hop trading limits.

12 26. The system of claim 19 wherein the central computer
13 removes trading channels in instances where a credit-extending
14 agent has not authorized acting as an intermediary for back-
15 to-back trades.

16 27. The system of claim 19 wherein the trading limits
17 are derived from at least one specified input credit limit
18 from the group of specified input credit limits comprising
19 position limits for lot items, position limits for quoted
20 items, volume limits for lot items, volume limits for quoted
21 items, notional position limits, notional volume limits, item
22 pair position limits, and item pair volume limits.

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24 28. The system of claim 27 wherein the central computer
25 converts the specified input credit limits into trading limits
26 for each pair of items being traded, and places said trading
27 limits into custom limit order books for each agent, said
28 custom limit order books taking into account multi-hop trades.

1 computer issues a deal ticket to an auditor, an in flow ticket
2 to the buying agent, and an out flow ticket to the selling
3 agent.
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5 38. The system of claim 37 wherein:

6 the trade is a multi-hop trade;

7 there is at least one intermediate agent situated in

8 the flow between the buying agent and the selling

9 agent;

10 the buying agent and the selling agent are unknown

11 to each other;

12 the deal ticket contains the identity of each

13 intermediate agent;

14 the in flow ticket contains the identity of just an

15 immediate neighboring agent; and

16 the out flow ticket contains the identity of just an

17 immediate neighboring agent.
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19 39. The system of claim 37 wherein each ticket is
20 digitally signed by the central computer.

21 40. The system of claim 37 wherein each ticket is
22 encrypted by the central computer.

23 41. The system of claim 40 wherein the in flow ticket is
24 encrypted to the buying agent and to the auditor, but not to
25 the central computer.

26 42. The system of claim 40 wherein the out flow ticket
27 is encrypted to the selling agent and to the auditor, but not
28 to the central computer.

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43. A method for an agent to trade with a counterparty an item from the group of items comprising commodities and financial instruments, said method comprising:

receiving from a central computer a custom limit

order book which takes into account multi-hop

trading limits with other agents coupled to the

central computer; and

communicating an order to the central computer based

upon information contained in the custom limit

order book.

44. A computer adapted to facilitate trading among a plurality of agents items from the group of items comprising commodities and financial instruments, said computer comprising:

means for converting specified input credit limits

into a set of trading limits;

coupled to the converting means, means for

postulating the trading limits as a set of multi-

hop trading limits; and

coupled to the postulating means, means for

communicating the multi-hop trading limits to the

agents in the form of a custom limit order book

for each agent, taking into account all of the

specified input credit limits.

45. The computer of claim 44 wherein the postulating means comprises means for applying a maximum flow algorithm.

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46. A computer readable medium comprising computer program instructions for enabling an agent to trade items from the group of items comprising commodities and financial instruments, said computer program instructions enabling said agent to perform the steps of:

receiving from a central computer a custom limit order book which takes into account multi-hop trading limits with other agents coupled to the central computer; and communicating an order to the central computer based upon information contained in the custom limit order book.

47. A method by which a computer facilitates trading, among a plurality of agents, items from the group of items comprising commodities and financial instruments, said computer performing the steps of:

converting specified input credit limits into a set of computerized trading limits; graphing a network comprising nodes representing agents, said nodes being connected by paths representing the trading limits; deriving from the graph a set of multi-hop trading limits between each pair of agents; and communicating the multi-hop trading limits to the agents in the form of a custom limit order book

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for each agent, said custom limit order book
taking into account the topology of the network.

48. The method of claim 47 wherein the deriving step
comprises applying a maximum flow algorithm.

49. A first agent computer adapted to trade with other
agent computers items from the group of items comprising
commodities and financial instruments, said first agent
computer comprising:

a display; and

displayed on the display, a custom limit order book
showing, for each pair of items to be traded,
multi-hop trading limits between said first agent
computer and each of said other agent computers.

50. The first agent computer of claim 49, further
comprising an application programming interface.

51. The first agent computer of claim 49 wherein the
multi-hop trading limits take into account specified input
credit limits.

52. The first agent computer of claim 51 wherein the
specified input credit limits comprise at least one limit from
the group of limits comprising position limits for lot items,
position limits for quoted items, volume limits for lot items,
volume limits for quoted items, notional position limits,
notional volume limits, traded item position limits, and
traded item volume limits.

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53. A method by which a first agent trades with other agents items from the group of items comprising commodities and financial instruments, said method comprising said first agent performing the steps of:

viewing a custom limit order book showing, for each pair of items to be traded, multi-hop trading limits between said first agent and each of said other agents; and
 executing a maneuver from the set of maneuvers comprising placing an order to be considered by said other agents and taking an order placed by one of said other agents.

54. The method of claim 53 wherein the step of executing a maneuver comprises taking less than an entire order.

55. A computer readable medium comprising computer program instructions for enabling a central computer to facilitate trading, among a plurality of agents, items from the group of items comprising commodities and financial instruments, said computer program instructions enabling said central computer to perform the steps of:

converting specified input credit limits into a set of computerized trading limits;
 graphing a network comprising nodes representing agents, said nodes being connected by paths representing the trading limits;

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deriving from the graph a set of multi-hop trading
limits between each pair of agents; and
communicating the multi-hop trading limits to the
agents in the form of a custom limit order book
for each agent, said custom limit order book
taking into account the topology of the network.

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